

CLAIMSWhat Is Claimed Is:

5 1. In combination, a package containing a sensor die and an optically transparent window for permitting electromagnetic radiation to be sensed by said sensor die and for providing an hermetic seal to said package to protect said sensor die against damage and contamination, wherein said optically transparent window includes an optically transparent thermoset plastic lens.

10 2. The combination of Claim 1 wherein said package is a ceramic package.

 3. The combination of Claim 1 wherein said thermoset plastic lens comprises an optically transparent epoxy.

15 4. The combination of Claim 3 wherein said epoxy is a self-releasing and fast cure resin.

 5. The combination of Claim 1 wherein said optically transparent window and
20 said optically transparent thermoset plastic lens are an integral unit.

 6. The combination of Claim 1 wherein said optically transparent thermoplastic lens is a field flattener.

25 7. The combination of Claim 6 wherein said field flattener has two opposed major surfaces, each independently selected from spherical surfaces, aspheric surfaces, diffractive surfaces, and combinations thereof.

 8. The combination of Claim 1 wherein said optically transparent thermoplastic
30 lens includes an anti-aliasing surface.

9. The combination of Claim 1 wherein said optically transparent thermoplastic lens includes an aberration-correcting surface.

5 10. The combination of Claim 1 wherein said optically transparent thermoplastic lens includes alignment features for alignment with a lens assembly.

11. The combination of Claim 10 wherein said alignment features comprise bumps or cones molded into edges of said optically transparent thermoplastic lens, for
10 alignment with mating features on said lens assembly.

12. A method for providing an hermetic seal to a package containing a sensor die to protect said sensor die against damage and contamination and for permitting electromagnetic radiation to be sensed by said sensor die through an optically transparent window, said method comprising:
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(a) providing an optically transparent thermoset plastic lens as part of said optically transparent window; and

(b) securing said optically transparent thermoset plastic lens and said optically transparent window to said package.
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13. The method of Claim 12 wherein said thermoset plastic lens comprises an optically transparent epoxy.

14. The method of Claim 13 wherein said epoxy is a self-releasing and fast cure
25 resin.

15. The method of Claim 12 wherein said optically transparent window and said optically transparent thermoset plastic lens are formed as an integral unit.

16. The method of Claim 12 wherein said optically transparent thermoplastic lens is a field flattener.

17. The method of Claim 16 wherein said field flattener has two opposed major surfaces, each independently selected from spherical surfaces, aspheric surfaces, diffractive surfaces, and combinations thereof.

18. The method of Claim 12 wherein said optically transparent thermoplastic lens includes an anti-aliasing surface.

19. The method of Claim 12 wherein said optically transparent thermoplastic lens includes an aberration-correcting surface.

20. The method of Claim 12 wherein said optically transparent thermoplastic lens includes alignment features for alignment with a lens assembly.

21. The method of Claim 20 wherein said alignment features comprise bumps or cones molded into edges of said optically transparent thermoplastic lens, for alignment with mating features on said lens assembly.

22. A method for forming a transparent epoxy thermoset lens comprising:
(a) providing pellets containing reactive components to form said epoxy;
(b) placing said pellets in a lens mold;
(c) subjecting said pellets in said mold to a temperature within a range of about 145° to 160°C to form said lens;
(d) subjecting said lens to a post-mold curing time and temperature within a range of 150° to 160°C; and
(e) cooling said lens to ambient temperature.

23. The method of Claim 22 wherein said post-mold curing time is 2 hours.